Lesson Plans: Estimating Local Sea Level

Objective

The objective is to train students' skills in observing the local environment based upon the sea level variations.

Materials

Each student or group of students will need the following:

- Notebook
- Pen
- Beach hat

Important Points to Understand

There are many clues which can indicate sea level change. Some simple and visible indicators are listed in the following table.

Type of coast	Sea level rising	Sea level falling
Rocky coast	Steep cliff Deep water	Rocky shelf above water Old shells stuck on rocks above water
Sandy coast	Sand cliff with vegetation hanging over the edge	
Mudflats	Dead mangroves in sea Drowned ground plants	Mangroves not in water at high tide Mudflats between ground plants and water high tide
City coast	Refurbished sea wall Buildings undercut	Broad beaches between buildings and sea River mouth silting up Old harbors now too shallow for ship

Procedure

1. Visit your local beach.
2. Look for evidence of any long-term change in sea level using some ideas given above.
3. Write down your view and reasons first and then compare with others.
4. If possible, identify other factors found during your visit.

Discussion

The intention of discussion is to put the prospects of sea level trend in a phase of global warming, into a true perspective. Based upon the fact that sea level has probably risen by about 25 centimeters in the last 100 years. This is about one third of the rise which we expect in the next 100 years:

1. How has this been noticed by the local community?
2. Students might talk about this to their parents. What changes have taken place at the coast in their lifetime?
3. Are there grandparents or elders who might be asked the same questions? When they were young, could they swim out to a particular dry rock? Where did they tie up their boats?
4. Given this reaction, how do the individual students imagine that they will react in their own lifetime to something like three times the change which has taken place in their parents' (or grandparents') lifetime?